



## MANAGING CRAPPIE IN SMALL IMPOUNDMENTS



Many landowners would like the opportunity to fish for crappie in their ponds and small lakes, but crappie can cause problems unless specific conditions exist. The Missouri Department of Conservation recognizes crappie as a popular sport fish. The purpose of this Aquaguide is to inform landowners of the conditions that allow crappie to be managed in private impoundments with minimal risk to the quality of fishing for other popular pond species.

Before introducing crappie, landowners should be sure that their pond will be relatively clear most of the time. This means you should be able to see a light object in 24 inches of water except during brief periods (a few days) following heavy rainfall and runoff. Ponds can be too muddy for crappie if the soil uphill is bare or frequently disturbed, or if clay soils with small suspendable particles exist throughout the pond basin itself. Clarity may also be reduced by excessive growth of microscopic algae which may occur if fertilizers wash into the pond from

surrounding cropfields or pasture. If water clarity is low, too many young crappie will escape the sight-feeding predation of other fish and growth beyond 5 or 6 inches will be very slow.

Biologists suspect that predation by largemouth bass in clear ponds is the key to keeping crappie numbers in check. Clear ponds that contain crappie and numerous largemouth bass rarely have excessive numbers of crappie. In fact, crappie anglers may be disappointed in the relatively low number of adult crappie present under such circumstances. But the crappie that do survive are likely to grow at a satisfactory rate (8 to 9 inches in three years). Most crappie enthusiasts would rather have a few large crappies in their pond than none at all.

Rooted underwater plants are especially important in ponds with crappie because the presence of near-shore hiding and feeding habitat is essential to the consistent survival of young bass (future predators of crappie).

Pond owners who wish to manage for crappie should value and protect a wide fringe of rooted aquatic plants around the shoreline. For this reason, the stocking of grass carp for plant control in ponds managed for crappie is considered very risky. Even a slight miscalculation of a grass carp stocking rate can lead to the eradication of all rooted underwater plants. If this happens, and the survival of young bass decreases, the stage is set for future overpopulation and stunting of crappie.

In addition to ensuring clear water and adequate shoreline habitat for young bass, it is important to protect some segment of the adult bass population from harvest. One approach to ensure adequate predation upon crappie is to protect all bass below a specified size with a voluntary minimum length limit (12, 14 and 15 inches are commonly applied in such situations). If reproduction is high, bass tend to "stockpile" under such a harvest regime, resulting in high numbers of small, hungry and slow-growing bass that will prevent crappie and bluegill from overpopulating.

It may also be possible to manage crappie with a bass population that includes larger fish, but that may require a slot-limit approach in which 12- to 15-inch bass or 14- to 18-inch bass are protected. Some smaller bass are harvested to reduce competition and stimulate growth of fish into the protected length range. Such situations require compliance among anglers and diligence in record keeping to ensure that anglers do not remove too many small bass. Overharvest of small bass under a slot-limit regime may result in overpopulation of crappie and bluegill.

When considering prey (food) for crappie, keeping it simple is best. Crappie will eat some of the same species of microscopic plankton and aquatic insects that are consumed by bluegill and young bass. When they become large enough to consume fish, crappie will eat young bluegill as well. Stocking fathead minnows into a new pond may give crappie a single-season boost in growth, but fatheads usually disappear after a year or two of predation by bass or crappie. Pond owners are advised to avoid stocking other prey, such as gizzard shad, because these can divert the predatory attention of largemouth bass away from

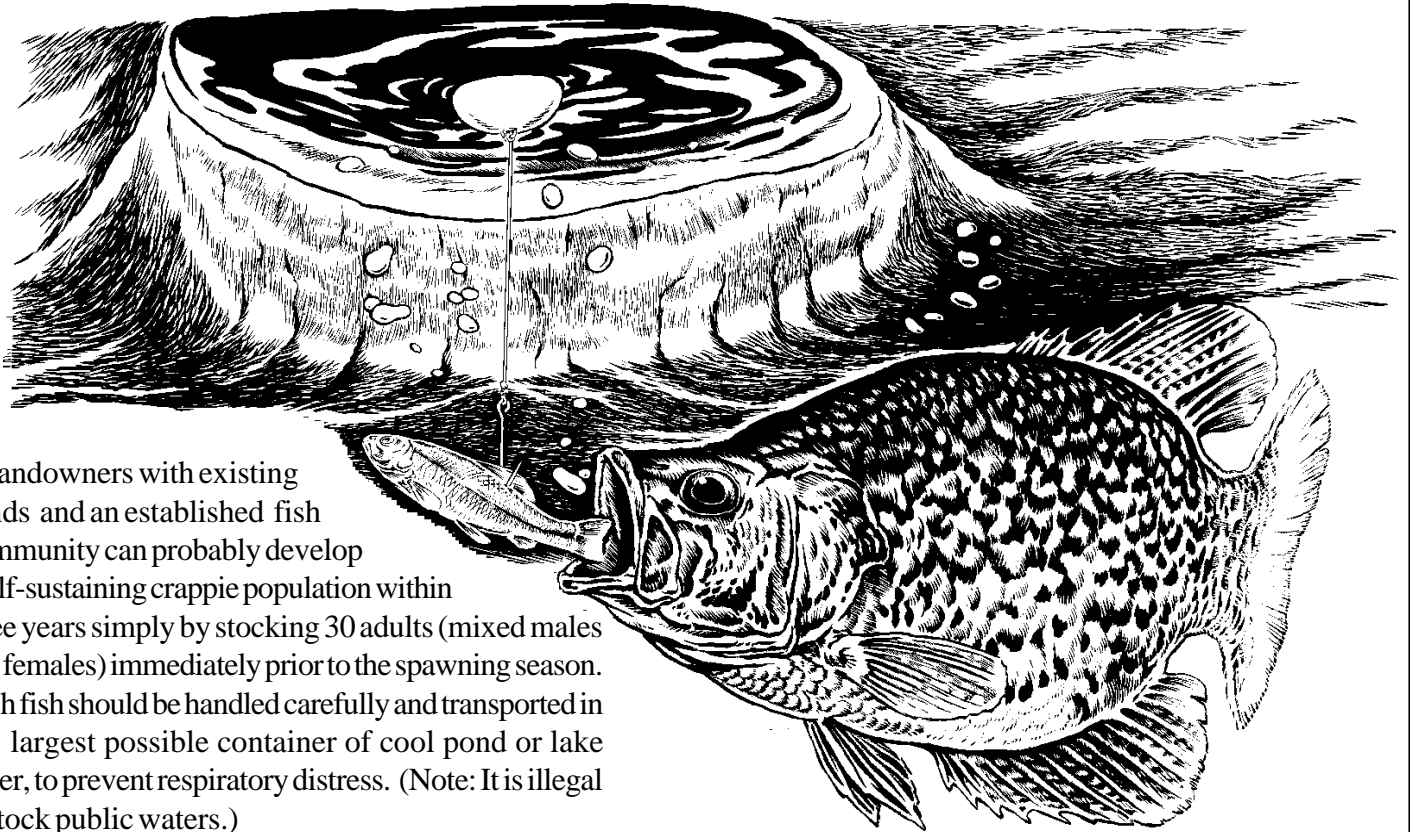
bluegill and crappie, allowing both panfish species to overpopulate. In more ways than one, gizzard shad can ruin a pond fishery.

Crappie may be harvested in any number and at any length without fear of eliminating the population. A few adults will always elude the angler's hook and survive until spawning season, thus ensuring the next generation of young. However, landowners who wish to get the most out of their crappie may decide to impose a voluntary minimum length limit of 9 or 10 inches, especially if it seems that numbers are low due to effective predatory control by largemouth bass and that crappie growth is satisfactory.

Crappie harvest may be enhanced by placing "crappie beds" into the pond. Typically such structures are made from submersed natural woody materials such as cedar trees or discarded Christmas trees. Despite their name, crappie "beds" are not necessary for successful spawning, but rather serve to attract fish in sufficient numbers to provide fast angling action. Crappie beds placed near shore attract fish during the April-May spawning season, and those placed at depths of 5 to 10 feet are effective in attracting fish during the remainder of the year.

Two species of crappies are common in Missouri--white crappie and black crappie. Dark pigmentation is arranged in vertical bars on the sides of white crappie, while the dark pigment appears as a uniform mottling or specks on the sides of black crappie. However, males of both species may become very dark during spawning season and closely resemble one another. To distinguish between the species, it may be necessary to count the number of dorsal fin spines, which are typically six in white crappie and seven or eight in black crappie.

Either species of crappie can be managed in suitable Missouri ponds, although there is some evidence that black crappie may be less likely to overpopulate if a pond should unexpectedly become muddy. Black crappie are a bit plumper than white crappie at any given length, but neither species has been shown to be superior to the other in a suitable Missouri pond environment.



Landowners with existing ponds and an established fish community can probably develop a self-sustaining crappie population within three years simply by stocking 30 adults (mixed males and females) immediately prior to the spawning season. Such fish should be handled carefully and transported in the largest possible container of cool pond or lake water, to prevent respiratory distress. (Note: It is illegal to stock public waters.)

Landowners with new ponds containing no fish have two options for establishing a crappie population. A conservative landowner will wait a couple years for the bass/bluegill community to become partly developed, then stock adult crappie as noted above. A landowner confident in the future suitability of the pond for crappie can purchase and stock 2-inch crappie fingerlings in June provided the bass present are not larger. Crappie stocking densities between 50 and 200 per acre have proven successful. On the high end of the crappie stocking density range, some reduction in the typical stocking density of bluegill (500/acre) and channel catfish (100/acre) fingerlings may be desirable to minimize competition for food among the various species. Landowners can favor one species or the other, depending upon their objectives.

In summary, successful management of crappie in

ponds and small lakes requires clear water, rooted aquatic plants, and sufficient numbers of adult largemouth bass to control the numbers of young crappie. If any of these conditions are lacking, an overpopulation of crappie may result. Crappie fishing can be enhanced by adding fish-attracting structures, and either species of crappie can be managed, depending on personal preference.

For additional information you may contact your local fishery biologist; call our Central Office at **573/751-4115**; visit our website at **[www.conservation.state.mo.us](http://www.conservation.state.mo.us)**; or write to us at:  
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